STIC Search Report
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STIC Database Tracking Number: 163027

TO: Deborah Lambkin **Location: rem/5B09/5C18** **Art Unit: 1626** **Wednesday, August 24, 2005** **Case Serial Number: 10/603437**	**From: Mary Hale** **Location: Biotech/Chem Library** **Rem 1D86** **Phone: 2-2507** **Mary.Hale@uspto.gov**

Search Notes

Feel free to contact me if you have any questions.

Note -- results are printed on both sides of printout

Access DB# 163027

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Deborah LAmbkin Examiner #: 71300 Date: 8/15/05
Art Unit: 1626 Phone Number 30 2-0698 Serial Number: 10/603,437
Mail Box and Bldg/Room Location: REM 5B04 Results Format Preferred (circle): PAPER DISK E-MAIL

5C18

If more than one search is submitted, please prioritize searches in order of need. ME

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

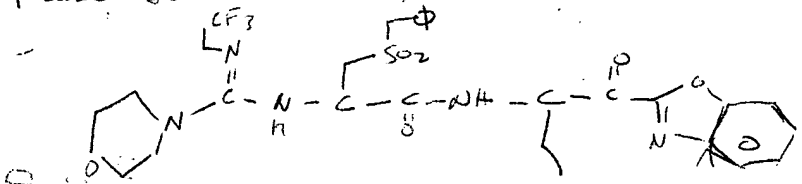
Title of Invention: Peptidic Compounds As Cysteine Protease Inhibitors

Inventors (please provide full names): Michael Crawford et al

Earliest Priority Filing Date: _____

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search the attached species ex. 4.



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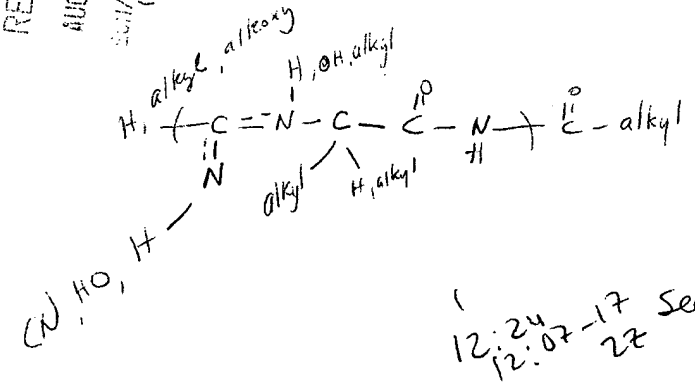
and the subgenus of Cl. 1



(note this is only a narrow subgenus of Cl 1) generic structure

12:24 12:07-17 See ex 4 + Cl 1 attached.

Thanks Deb

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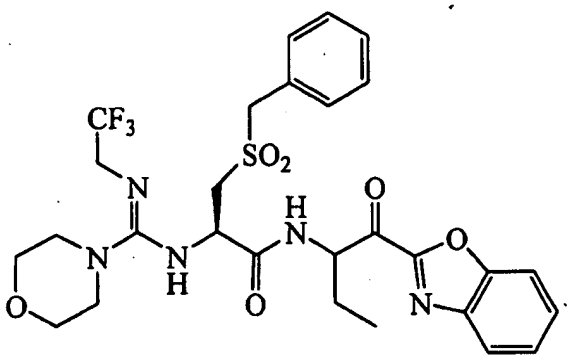
STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: Mary	NA Sequence (#)		STN	939.20
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)	2	Questel/Orbit	
Date Searcher Picked Up: 8/24	Bibliographic		Dr.Link	
Date Completed: 8/24	Litigation		Lexis/Nexis	
Searcher Prep & Review Time:	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time: 17	Other		Other (specify)	

PTO-1590 (8-01)

II. Claims 1-27, drawn to compounds, compositions and methods wherein R1, R1a, R2, R3, R4, R4a, and E does contain a heterocyclic group, classified in class/subclass numerous depending on the elected species.

The Examiner stated that the inventions of Groups I and II are distinct because "[t]hey do not possess a SUBSTANTIAL COMMON CORE seen to be essential to the utility by itself, nor is the core novel, hence, Groups I and II fail to meet both criteria for Markush type claims." The Examiner further stated "there are multiple patentably distinct inventions wherein a reference anticipating one would not necessarily render the other obvious and to search all the instant compounds in a single application would present an undue burden on the examiner."

Applicants elect Group II with traverse. The Applicants further elect the species having the following structure:

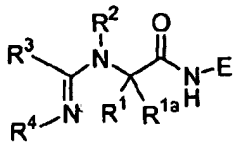


and referenced in the application as Example 4. Claims 1-5, 7, 11-14 and 18-27 read on the elected species.

Applicants respectfully traverse the restriction requirement for the following reasons. The Applicants submit that the Examiner may not compel an applicant to narrow the scope of a generic claim pursuant to a restriction requirement. Decisions by the Patent and Trademark Office Board of Patent Appeals and its reviewing court clearly hold that a restriction requirement which compels an applicant to divide a generic claim for the purposes of excising non-elected subject matter is improper and that such amounts

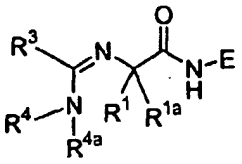
WE CLAIM:

1. A compound of Formula (Ia) or (Ib):



(Ia)

or



(Ib)

wherein:

E is:

(i) $-C(R^5)(R^6)X^1$ where X^1 is -CHO, $-C(R^7)(R^8)CF_3$, $-C(R^7)(R^8)CF_2CF_2R^9$, $-C(R^7)(R^8)R^{10}$, $-CH=CHS(O)_2R^{10}$, $-C(R^7)(R^8)C(R^7)(R^8)OR^{10}$, $-C(R^7)(R^8)CH_2OR^{10}$, $-C(R^7)(R^8)C(R^7)(R^8)R^{10}$, $-C(R^7)(R^8)CH_2N(R^{11})SO_2R^{10}$, $-C(R^7)(R^8)CF_2C(O)NR^{10}R^{11}$, $-C(R^7)(R^8)C(O)NR^{10}R^{11}$, $-C(R^7)(R^8)C(O)N(R^{11})(CH_2)_2OR^{11}$, or $-C(R^7)(R^8)C(O)N(R^{11})(CH_2)_2NHR^{11}$;

where:

R^5 is hydrogen or (C_{1-6})alkyl;

R^6 is hydrogen, (C_{1-6})alkyl, cyano, $-X^2NR^{12}R^{12a}$, $-X^2NR^{12}C(O)R^{12a}$, $-X^2NR^{12}C(O)OR^{12a}$, $-X^2NR^{12}C(O)NR^{12a}R^{12b}$, $-X^2NR^{12}C(NR^{12a})NR^{12b}R^{12c}$, $-X^2OR^{13}$, $-X^2SR^{13}$, $-X^2C(O)OR^{12}$, $-X^2C(O)R^{13}$, $-X^2OC(O)R^{13}$, $-X^2C(O)NR^{12}R^{12a}$, $-X^2S(O)_2NR^{12}R^{12a}$, $-X^2NR^{12}S(O)_2R^{13}$, $-X^2P(O)(OR^{12})OR^{12a}$, $-X^2OP(O)(OR^{12})OR^{12a}$, $-X^2S(O)R^{14}$, $-X^2S(O)_2R^{14}$, $-R^{15}$, $-X^2OR^{15}$, $-X^2SR^{15}$, $-X^2S(O)R^{15}$, $-X^2S(O)_2R^{15}$, $-X^2C(O)R^{15}$, $-X^2C(O)OR^{15}$, $-X^2OC(O)R^{15}$, $-X^2NR^{15}R^{12}$, $-X^2NR^{12}C(O)R^{15}$, $-X^2NR^{12}C(O)OR^{15}$, $-X^2C(O)NR^{15}R^{12}$, $-X^2S(O)_2NR^{15}R^{12}$, $-X^2NR^{12}S(O)_2R^{15}$, $-X^2NR^{12}C(O)NR^{15}R^{12a}$ or $-X^2NR^{12}C(NR^{12a})NR^{15}R^{12}$ where X^2 is (C_{1-6})alkylene; R^{12}, R^{12a}, R^{12b} and R^{12c} at each occurrence independently is hydrogen or (C_{1-6})alkyl; R^{13} is hydrogen, (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl, R^{14} is (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl; and R^{15} is (C_{3-10})cycloalkyl(C_{0-6})alkyl, hetero(C_{3-10})cycloalkyl(C_{0-3})alkyl, (C_{6-10})aryl(C_{0-6})alkyl, hetero(C_{5-10})aryl(C_{0-6})alkyl, (C_{9-12})bicycloaryl(C_{0-6})alkyl or hetero(C_{8-12})bicycloaryl(C_{0-6})alkyl; or

R^5 and R^6 taken together with the carbon atom to which both R^5 and R^6 are attached form (C_{3-8})cycloalkylene or hetero(C_{3-8})cycloalkylene wherein said cycloalkylene and heterocycloalkylene may be substituted further with 1 to 2 radicals independently selected

from (C_{1-6})alkyl, cyano, halo, halo-substituted(C_{1-4})alkyl, nitro, $-X^3NR^{16}R^{16a}$, $-X^3NR^{16}C(O)R^{16a}$, $-X^3NR^{16}C(O)OR^{16a}$, $-X^3NR^{16}C(O)NR^{16a}R^{16b}$, $-X^3NR^{16}C(NR^{16a})NR^{16b}R^{16c}$, $-X^3OR^{17}$, $-X^3SR^{17}$, $-X^3C(O)OR^{16}$, $-X^3C(O)R^{17}$, $-X^3OC(O)R^{17}$, $-X^3C(O)NR^{16}R^{16a}$, $-X^3S(O)_2NR^{16}R^{16a}$, $-X^3NR^{16}S(O)_2R^{17}$, $-X^3P(O)(OR^{16})OR^{16a}$, $-X^3OP(O)(OR^{16})OR^{16a}$, $-X^3S(O)R^{18}$ and $-X^3S(O)_2R^{18}$ where X^3 is a bond or (C_{1-6})alkylene; R^{16}, R^{16a}, R^{16b}, and R^{16c} at each occurrence independently is hydrogen or (C_{1-6})alkyl; R^{17} is hydrogen, (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl, and R^{18} is (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl;

R^7 is hydrogen or (C_{1-4})alkyl;

R^8 is hydroxy; or

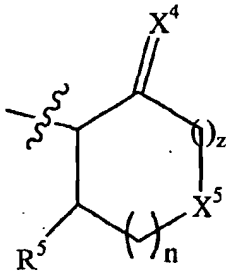
R^7 and R^8 together form oxo;

R^9 is hydrogen, halo, (C_{1-4})alkyl, (C_{5-10})aryl(C_{0-6})alkyl or hetero(C_{5-10})aryl(C_{0-6})alkyl; and

R^{10} is (C_{1-4})alkyl, (C_{6-10})aryl(C_{0-6})alkyl, hetero(C_{4-10})aryl(C_{0-6})alkyl, (C_{4-10})cycloalkyl(C_{0-6})alkyl or hetero(C_{4-10})cycloalkyl(C_{0-6})alkyl; and

R^{11} is hydrogen or (C_{1-6})alkyl; or

(ii) a group of formula (a):



(a)

where:

n is 0, 1, or 2;

z is 0 or 1;

X^4 is selected from NR^{19}, S, or O where R^{19} is hydrogen or (C_{1-6})alkyl; and

X^5 is –O-, -S-, $-SO_2-$, or $-NR^{20}-$ where R^{20} is selected from hydrogen, (C_{1-6})alkyl, $-X^6C(O)OR^{22}$, $-X^6C(O)NR^{22}R^{22a}$, $-X^6S(O)_2NR^{22}R^{22a}$, $-X^6C(O)R^{23}$, $-X^6S(O)_2R^{24}$, $-R^{25}$, $-X^6C(O)OR^{25}$, $-X^6C(O)NR^{22}R^{25}$, $-X^6S(O)_2NR^{22}R^{25}$, $-X^6C(O)R^{25}$ and $-X^6S(O)_2R^{25}$ in which X^6 is a bond or (C_{1-6})alkylene; R^{22} and R^{22a} at each occurrence independently is hydrogen or

(C_{1-6})alkyl; R^{23} is hydrogen, (C_{1-6})alkyl or halo-substitutcd(C_{1-6})alkyl, R^{24} is (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl, and R^{25} is (C_{3-10})cycloalkyl(C_{0-6})alkyl, hetero(C_{3-10})cycloalkyl(C_{0-3})alkyl, (C_{6-10})aryl(C_{0-6})alkyl, hetero(C_{5-10})aryl(C_{0-6})alkyl, (C_{9-12})bicycloaryl(C_{0-6})alkyl or hetero(C_{8-12})bicycloaryl(C_{0-6})alkyl provided that when R^5 is hydrogen, then both X^4 and X^5 are not –O-;

R^5 is as defined above;

and furthermore within E any cycloalkyl, heterocycloalkyl, aryl or heteroaryl may be substituted with R^x selected from $-R^{26}$, $-X^7OR^{26}$, $-X^7SR^{26}$, $-X^7S(O)R^{26}$, $-X^7S(O)_2R^{26}$, $-X^7C(O)R^{26}$, $-X^7C(O)OR^{26}$, $-X^7OC(O)R^{26}$, $-X^7NR^{26}R^{27}$, $-X^7NR^{27}C(O)R^{26}$, $-X^7NR^{27}C(O)OR^{26}$, $-X^7C(O)NR^{26}R^{27}$, $-X^7S(O)_2NR^{26}R^{27}$, $-X^7NR^{27}S(O)_2R^{26}$, $-X^7NR^{27}C(O)NR^{26}R^{27a}$ and $-X^7NR^{27}C(NR^{27a})NR^{26}R^{27b}$ and wherein E and R^x may be substituted further with 1 to 5 radicals independently selected from (C_{1-6})alkyl, cyano, halo, halo-substituted(C_{1-4})alkyl, nitro, $-X^8NR^{28}R^{28a}$, $-X^8NR^{28}C(O)R^{28a}$, $-X^8NR^{28}C(O)OR^{28a}$, $-X^8NR^{28}C(O)NR^{28a}R^{28b}$, $-X^8NR^{28}C(NR^{28a})NR^{28b}R^{28c}$, $-X^8OR^{29}$, $-X^8SR^{29}$, $-X^8C(O)OR^{28}$, $-X^8C(O)R^{29}$, $-X^8OC(O)R^{29}$, $-X^8C(O)NR^{28}R^{28a}$, $-X^8S(O)_2NR^{28}R^{28a}$, $-X^8NR^{28}S(O)_2R^{29}$, $-X^8P(O)(OR^{28})OR^{28a}$, $-X^8OP(O)(OR^{28})OR^{28a}$, $-X^8S(O)R^{30}$ and $-X^8S(O)_2R^{30}$ wherein X^7 and X^8 are independently a bond or (C_{1-6})alkylene; R^{26} is (C_{3-10})cycloalkyl(C_{0-6})alkyl, hetero(C_{3-10})cycloalkyl(C_{0-3})alkyl, (C_{6-10})aryl(C_{0-6})alkyl, hetero(C_{5-10})aryl(C_{0-6})alkyl, (C_{9-12})bicycloaryl(C_{0-6})alkyl or hetero(C_{8-12})bicycloaryl(C_{0-6})alkyl, R^{27}, R^{27a}, R^{27b}, R^{28}, R^{28a}, R^{28b} and R^{28c} at each occurrence independently is hydrogen or (C_{1-6})alkyl, R^{29} is hydrogen, (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl, and R^{30} is (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl;

R^1 is (C_{1-10})alkyl or $-C(R^{31})(R^{32})X^9$ wherein R^{31} and R^{32} are independently hydrogen or (C_{1-6})alkyl and X^9 is selected from $-X^{10}NR^{33}R^{33a}$, $-X^{10}NR^{33}C(O)R^{33a}$, $-X^{10}NR^{33}C(O)OR^{33a}$, $-X^{10}NR^{33}C(O)NR^{33a}R^{33b}$, $-X^{10}NR^{33}C(NR^{33a})NR^{33b}R^{33c}$, $-X^{10}OR^{33}$, $-X^{10}SR^{33}$, $-X^{10}C(O)OR^{33}$, $-X^{10}C(O)R^{33}$, $-X^{10}OC(O)R^{33}$, $-X^{10}C(O)NR^{33}R^{33a}$, $-X^{10}S(O)_2NR^{33}R^{33a}$, $-X^{10}NR^{33}S(O)_2R^{33a}$, $-X^{10}P(O)(OR^{33})OR^{33a}$, $-X^{10}OP(O)(OR^{33})OR^{33a}$, $-X^{10}C(O)R^{34}$, $-X^{10}NR^{33}C(O)R^{34}$, $-X^{10}S(O)R^{34}$, $-X^{10}S(O)_2R^{34}$, $-R^{35}$, $-X^{10}OR^{35}$, $-X^{10}SR^{35}$, $-X^{10}S(O)R^{35}$, $-X^{10}S(O)_2R^{35}$, $-X^{10}C(O)R^{35}$, $-X^{10}C(O)OR^{35}$, $-X^{10}OC(O)R^{35}$, $-X^{10}NR^{33}R^{35}$, $-X^{10}NR^{33}C(O)R^{35}$, $-X^{10}NR^{33}C(O)OR^{35}$, $-X^{10}C(O)NR^{33}R^{35}$, $-X^{10}S(O)_2NR^{33}R^{35}$, $-X^{10}NR^{33}S(O)_2R^{35}$, $-X^{10}NR^{33}C(O)NR^{33a}R^{35}$ and $-X^{10}NR^{33}C(NR^{33a})NR^{33b}R^{35}$ wherein X^{10} is a bond or (C_{1-6})alkylene; R^{33}, R^{33a}, R^{33b}, and R^{33c} at each occurrencc independently is hydrogen, (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl; R^{34} is (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl; and R^{35} is (C_{3-10})cycloalkyl(C_{0-6})alkyl,

hetero(C_{3-10})cycloalkyl(C_{0-3})alkyl, (C_{6-10})aryl(C_{0-6})alkyl, hetero(C_{5-10})aryl(C_{0-6})alkyl, (C_{9-10})bicycloaryl(C_{0-6})alkyl or hetero(C_{8-10})bicycloaryl(C_{0-6})alkyl;

wherein within R^1 any alicyclic or aromatic ring system is unsubstituted or substituted further by 1 to 5 radicals independently selected from (C_{1-6})alkyl, (C_{1-6})alkylidene, cyano, halo, halo-substituted(C_{1-4})alkyl, nitro, $-X^{11}NR^{36}R^{36a}$, $-X^{11}NR^{36}C(O)R^{36a}$, $-X^{11}NR^{36}C(O)OR^{36a}$, $-X^{11}NR^{36}C(O)NR^{36a}R^{36b}$, $-X^{11}NR^{36}C(NR^{36a})NR^{36b}R^{36c}$, $-X^{11}OR^{36}$, $-X^{11}SR^{36}$, $-X^{11}C(O)OR^{36}$, $-X^{11}C(O)R^{36}$, $-X^{11}OC(O)R^{36}$, $-X^{11}C(O)NR^{36}R^{36a}$, $-X^{11}S(O)_2NR^{36}R^{36a}$, $-X^{11}NR^{36}S(O)_2R^{36a}$, $-X^{11}P(O)(OR^{36})OR^{36a}$, $-X^{11}OP(O)(OR^{36})OR^{36a}$, $-X^{11}NR^{36}C(O)R^{37}$, $-X^{11}S(O)R^{37}$, $-X^{11}C(O)R^{37}$ and $-X^{11}S(O)_2R^{37}$ and/or 1 radical selected from $-R^{38}$, $-X^{12}OR^{38}$, $-X^{12}SR^{38}$, $-X^{12}S(O)R^{38}$, $-X^{12}S(O)_2R^{38}$, $-X^{12}C(O)R^{38}$, $-X^{12}C(O)OR^{38}$, $-X^{12}OC(O)R^{38}$, $-X^{12}NR^{36}R^{38}$, $-X^{12}NR^{36}C(O)R^{38}$, $-X^{12}NR^{36}C(O)OR^{38}$, $-X^{12}C(O)NR^{36}R^{38}$, $-X^{12}S(O)_2NR^{36}R^{38}$, $-X^{12}NR^{36}S(O)_2R^{38}$, $-X^{12}NR^{36}C(O)NR^{36a}R^{38}$ and $-X^{12}NR^{36}C(NR^{36a})NR^{36b}R^{38}$; and within R^1 any aliphatic moiety is unsubstituted or substituted further by 1 to 5 radicals independently selected from cyano, halo, nitro, $-NR^{39}R^{39a}$, $-N^{39}C(O)R^{39a}$, $-NR^{39}C(O)OR^{39a}$, $-NR^{39}C(O)NR^{39a}R^{39b}$, $-NR^{39}C(NR^{39a})NR^{39b}R^{39c}$, $-OR^{39}$, $-SR^{39}$, $-C(O)OR^{39}$, $-C(O)R^{39}$, $-OC(O)R^{39}$, $-C(O)NR^{39}R^{39a}$, $-S(O)_2NR^{39}R^{39a}$, $-NR^{39}S(O)_2R^{39a}$, $-P(O)(OR^{39})OR^{39a}$, $-OP(O)(OR^{39})OR^{39a}$, $-NR^{39}C(O)R^{40}$, $-S(O)R^{40}$ and $-S(O)_2R^{40}$; wherein X^{11} and X^{12} are independently a bond or (C_{1-6})alkylene; R^{36}, R^{36a}, R^{36b}, R^{36c}, R^{39}, R^{39a}, R^{39b} and R^{39c} at each occurrence independently is hydrogen, (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl; R^{37} and R^{40} are independently (C_{1-6})alkyl or halo-substituted(C_{1-6})alkyl; and R^{38} is (C_{3-10})cycloalkyl(C_{0-6})alkyl, hetero(C_{3-10})cycloalkyl(C_{0-3})alkyl, (C_{6-10})aryl(C_{0-6})alkyl, hetero(C_{5-10})aryl(C_{0-6})alkyl, (C_{9-10})bicycloaryl(C_{0-6})alkyl or hetero(C_{8-10})bicycloaryl(C_{0-6})alkyl, provided that only one (C_{9-10})bicycloaryl(C_{0-6})alkyl or hetero(C_{8-10})bicycloaryl(C_{0-6})alkyl ring structure is present within R^1;

R^{1a} is hydrogen or (C_{1-6})alkyl; or

R^1 and R^{1a} together with the carbon atoms to which they are attached form (C_{3-8})cycloalkylene or hetero(C_{3-10})cycloalkylene ring wherein said cycloalkylene ring is optionally substituted with one or two substitutents independently selected from (C_{1-6})alkyl, (C_{1-6})alkoxy, hydroxy, halo, hydroxyalkyl, or keto and said heterocycloalkylene ring is optionally substituted with one or two substitutents independently sclected from (C_{1-6})alkyl, (C_{1-6})alkoxy, hydroxyalkyl, alkoxyalkyl, aminoalkyl, acyl, (C_{3-10})cycloalkyl(C_{0-6})alkyl, hetero(C_{3-10})cycloalkyl(C_{0-3})alkyl, (C_{6-10})aryl(C_{0-6})alkyl, hetero(C_{5-10})aryl(C_{0-6})alkyl wherein

said aryl, heteroaryl, and heterocycloalkyl are optionally substituted with one, two, or three substitutents independently selected from (C_{1-6})alkyl, (C_{1-6})alkoxy, nitro, amino, halo, hydroxy, alkylthio, halo-substituted alkyl, halo-substituted alkoxy, acyl, $-OC(O)R^{39}$, $-C(O)NR^{39}R^{39a}$, $-S(O)_2NR^{39}R^{39a}$, $-S(O)_2R^{38}$ or $-S(O)_2R^{40}$ where R^{38}, R^{39}, R^{39a}, and R^{40} are as defined above;

R^2 is hydrogen, hydroxy, or (C_{1-6})alkyl;

R^3 is hydrogen, (C_{1-6})alkyl, (C_{1-6})alkoxy, aryloxy, (C_{3-8})cycloalkyl, (C_{3-8})cycloalkyloxy, aryl, benzyl, tetrahydronaphthyl, indenyl, indanyl, (C_{1-6})alkylsulfonyl(C_{1-6})alkyl, (C_{3-8})cycloalkylsulfonyl(C_{1-6})alkyl, arylsulfonyl(C_{1-6})alkyl, heterocyclic ring selected from azepanyl, azocanyl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, piperazinyl, indolinyl, pyranyl, tetrahydropyranyl, tetrahydrothiopyranyl, thiopyranyl, furanyl, tetrahydrofuranyl, thienyl, pyrrolyl, oxazolyl, isoxazolyl, thiazolyl, imidazolyl, pyridinyl, pyrimidinyl, pyrazinyl, pyridazinyl, tetrazolyl, pyrazolyl, indolyl, benzofuranyl, benzothienyl, benzimidazolyl, benzthiazolyl, benzisoxazolyl, quinolinyl, tetrahydroquinolinyl, isoquinolinyl, tetrahydroisoquinolinyl, quinazolinyl, tetrahydroquinazolinyl, benzoxazolyl or quinoxalinyl, -OR where R is a heterocyclic moiety selected from those herein described in this paragraph, or amino; wherein R^3 is optionally substituted by one, two, or three R^a;

each R^a is independently (C_{1-6})alkyl, (C_{3-8})cycloalkyl, aryl, tetrahydronaphthyl, indenyl, indanyl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, piperazinyl, indolinyl, furanyl, thienyl, pyrrolyl, oxazolyl, thiazolyl, imidazolyl, triazolyl, tetrazolyl, pyridinyl, pyrimidinyl, pyrazinyl, indolyl, benzofuranyl, benzothienyl, benzimidazolyl, benzthiazolyl, benzoxazolyl, benzisoxazolyl, quinolinyl, isoquinolinyl, quinazolinyl, quinoxalinyl, (C_{1-6})alkoxy, (C_{1-6})haloalkoxy, (C_{1-6})alkanoyl, (C_{1-6}) alkanoyloxy, aryloxy, benzyloxy, (C_{1-6})alkoxycarbonyl, aryloxycarbonyl, aroyloxy, carbamoyl wherein the nitrogen atom may be independently mono or di-substituted by (C_{1-6})alkyl, aryl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, piperazinyl, indolinyl, furanyl, thienyl, pyrrolyl, oxazolyl, thiazolyl, imidazolyl, triazolyl, tetrazolyl, pyridinyl, pyrimidinyl, pyrazinyl, indolyl, benzofuranyl, benzothienyl, benzimidazolyl, benzthiazolyl, quinolinyl, isoquinolinyl, quinazolinyl or quinoxalinyl, or

each R^a is independently (C_{1-6})alkanoylamino, aroylamino, (C_{1-6})alkylthio wherein the sulfur atom may be oxidized to a sulfoxide or sulfone, arylthio wherein the sulfur atom may be oxidized to a sulfoxide or sulfone, ureido wherein either nitrogen atom may be

independently substituted by (C_{1-6})alkyl, aryl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, piperazinyl, indolinyl, furanyl, thienyl, pyrrolyl, oxazolyl, thiazolyl, imidazolyl, triazolyl, tetrazolyl, pyridinyl, pyrimidinyl, pyrazinyl, indolyl, benzofuranyl, benzothienyl, benzimidazolyl, benzthiazolyl, quinolinyl, isoquinolinyl, quinazolinyl or quinoxalinyl, or

each R^a is independently (C_{1-6})alkoxycarbonylamino, aryloxycarbonylamino, (C_{1-6})alkylcarbamoyloxy, arylcarbamoyloxy, (C_{1-6})alkylsulfonylamino, arylsulfonylamino, aminosulfonyl, (C_{1-6})alkylaminosulfonyl, di-(C_{1-6})alkylaminosulfonyl, arylaminosulfonyl, amino wherein the nitrogen atom may be independently mono or di-substituted by (C_{1-6})alkyl, aryl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, piperazinyl, indolinyl, furanyl, thienyl, pyrrolyl, oxazolyl, thiazolyl, imidazolyl, triazolyl, tetrazolyl, pyridinyl, pyridinyl, pyrazinyl, indolyl, benzofuranyl, benzothienyl, benzimidazolyl, benzthiazolyl, quinolinyl, isoquinolinyl, quinazolinyl or quinoxalinyl, or

each R^a is independently halogen, hydroxy, (C_{1-6})alkoxy, (C_{1-6})haloalkyl, (C_{1-6})haloalkoxy, oxo, carboxy, cyano, nitro, carboxamide, amidino or guanidino, R^a is may be further optionally substituted by one, two, or three R^b;

each R^b is independently (C_{1-6})alkyl optionally partially or fully halogenated wherein one or more carbon atoms are optionally replaced by O, N, S(O), $S(O)_2$ or S and wherein said alkyl is optionally independently substituted with 1-2 oxo groups, $-NH_2$, or one or more C_{1-4}alkyl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, piperazinyl, indolinyl, furanyl, thienyl, pyrrolyl, oxazolyl, thiazolyl, imidazolyl, triazolyl, tetrazolyl, pyridinyl, pyrimidinyl, pyrazinyl, indolyl, benzofuranyl, benzothienyl, benzimidazolyl, benzthiazolyl, quinolinyl, isoquinolinyl, quinazolinyl, or quinoxalinyl; or

each R^b is independently (C_{3-6})cycloalkyl, aryl, aryloxy, benzyloxy, halogen, hydroxy, (C_{1-6})alkyl, (C_{1-6})alkoxy, (C_{1-6})haloalkyl, (C_{1-6})haloalkoxy, aminosulfonyl, (C_{1-6})alkylaminosulfonyl, di-(C_{1-6})alkylaminosulfonyl, arylaminosulfonyl, oxo, carboxy, cyano, nitro, mono-C_{1-5}alkylamino, di-(C_{1-5})alkylamino, carboxamide, amidino or guanidino;

R^4 is hydrogen, hydroxy, nitrile, or a (C_{1-6})alkyl optionally partially or fully halogenated wherein one or more C atoms are optionally replaced by O, NH, S(O), $S(O)_2$ or S and wherein said alkyl chain is optionally independently substituted with 1-2 oxo groups, $-NH_2$, one or more C_{1-4} alkyl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, piperazinyl, indolinyl, pyranyl, thiopyranyl, furanyl, thienyl, pyrrolyl, oxazolyl, isoxazolyl, thiazolyl, imidazolyl, pyridinyl, pyrimidinyl, pyrazinyl, indolyl, benzofuranyl, benzothienyl,

benzimidazolyl, benzthiazolyl, quinolinyl, isoquinolinyl, quinazolinyl, benzoxazolyl or quinoxalinyl; or

R^3 and R^4 together with the atoms to which they are attached form a heterocycloalkyl ring or a heterocyclic ring fused to an aryl or heteroaryl ring provided that the heterocycloalkyl rings contain at least an $-SO_2-$ group, wherein said heterocycloalkyl rings may be optionally substituted on the aromatic and/or non-aromatic portion of the rings with one, two, or three R^c;

each R^c and R^{4a} is independently:

hydrogen, (C_{1-6})alkyl optionally interrupted by one or two N, O, S, S(O), or $S(O)_2$ and optionally substituted by 1-2 oxo, amino, hydroxy, halogen, C_{1-4}alkyl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, piperazinyl, indolinyl, pyranyl, thiopyranyl, furanyl, thienyl, pyrrolyl, oxazolyl, isoxazolyl, thiazolyl, imidazolyl, pyridinyl, pyrimidinyl, pyrazinyl, indolyl, benzofuranyl, benzothienyl, benzimidazolyl, benzthiazolyl, quinolinyl, isoquinolinyl, quinazolinyl, benzoxazolyl or quinoxalinyl;

halo, alkoxy, alkylthio, hydroxy, carboxy, aryl, aryloxy, aroyl, heteroaryl, (C_{1-6})alkanoyl, $-C(O)OR^d$ where (R^d is hydrogen, (C_{1-6})alkyl, (C_{1-6})alkoxyalkyl, (C_{1-6})haloalkyl, (C_{3-7})cycloalkyl, (C_{3-7})cycloalkyl(C_{1-6})alkyl, heteroaryl, heteroaryl(C_{1-6})alkyl, aryl, or aryl(C_{1-6})alkyl), (C_{1-6})alkylsulfonyl, aryloxycarbonyl, benzyloxycarbonyl, (C_{1-6})alkanoylamino, aroylamino, C_{1-5} alkylthio, arylthio, (C_{1-6})alkylsulfonylamino, arylsulfonylamino, (C_{1-6})alkylamino-sulfonyl, arylaminosulfonyl, (C_{3-6})cycloalkyl and benzyloxy wherein each of the aforementioned group is optionally substituted with halogen, hydroxy, (C_{1-6})alkyl, (C_{1-6})alkoxy, (C_{1-6})haloalkyl, (C_{1-6})haloalkoxy, oxo, carboxy, nitrile, nitro or $NH_2C(O)-$;
or a pharmaceutically acceptable salts thereof provided that there are no more than 5 ring systems in a compound of Formula (Ia) or (Ib).

2. The compound of Claim 1 wherein:

R^3 is (C_{1-6})alkyl, (C_{1-6})alkoxy, aryloxy, (C_{3-8})cycloalkyl, (C_{3-8})cycloalkyloxy, aryl, benzyl, tetrahydronaphthyl, indenyl, indanyl, (C_{1-6})alkylsulfonyl(C_{1-6})alkyl, (C_{3-8})cycloalkylsulfonyl(C_{1-6})alkyl, arylsulfonyl(C_{1-6})alkyl, heterocyclic ring selected from azepanyl, azocanyl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, piperazinyl, indolinyl, pyranyl, tetrahydropyranyl, tetrahydrothiopyranyl, thiopyranyl, furanyl, tetrahydrofuranyl, thienyl, pyrrolyl, oxazolyl, isoxazolyl, thiazolyl, imidazolyl, pyridinyl, pyrimidinyl, pyrazinyl, pyridazinyl, tetrazolyl, pyrazolyl, indolyl, benzofuranyl, benzothienyl,

Access DB# 163027

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Deborah Lambkin Examiner #: 71300 Date: 8/15/05
Art Unit: 1626 Phone Number 30 2-0698 Serial Number: 10/603,437
Mail Box and Bldg/Room Location: REM 5309 Results Format Preferred (circle): PAPER DISK E-MAIL

5C18

If more than one search is submitted, please prioritize searches in order of need. ME

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

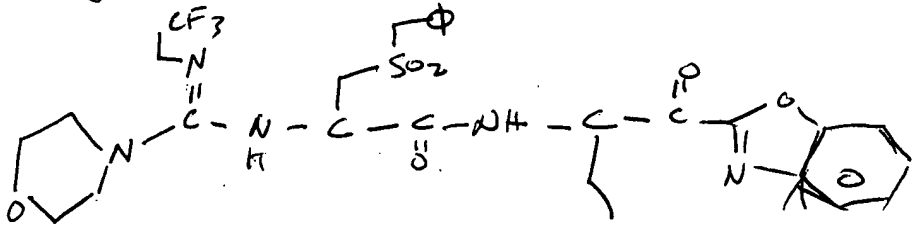
Title of Invention: Peptidic Compounds As Cysteine Protease Inhibitors

Inventors (please provide full names): Michael Grauper et al

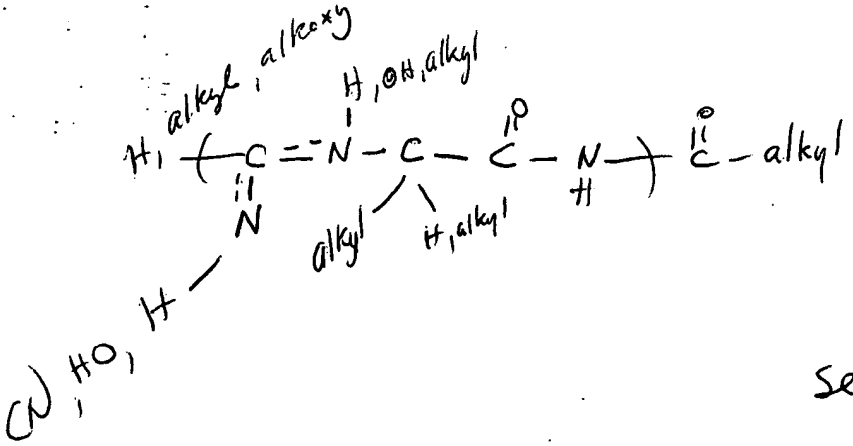
Earliest Priority Filing Date:

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search the attached species . ex. 4.



and the subgenus of Cl. 1



(note this is only a narrow subgenus of Cl 1) generic structure.

see ex 4 + Cl 1 attached.

Thanks OC